

**WHAT IS CLAIMED IS:**

1. A medical device, comprising:  
an alloy comprising less than about 22 weight percent of chromium, less than about 4 weight percent of molybdenum, greater than about 50 weight percent of platinum, and iron.
2. The device of claim 1, wherein the alloy comprises from about 3 to about 22 weight percent of chromium.
3. The device of claim 1, wherein the alloy comprises from about 1 to about 4 weight percent of molybdenum.
4. The device of claim 1, wherein the alloy comprises greater than about 55 weight percent of platinum.
5. The device of claim 1, wherein the alloy comprises greater than about 60 weight percent of platinum.
6. The device of claim 1, wherein the alloy comprises greater than about 65 weight percent of platinum.
7. The device of claim 1, wherein the alloy comprises greater than about 70 weight percent of platinum.
8. The device of claim 1, wherein the alloy comprises greater than about 80 weight percent of platinum.
9. The device of claim 1, wherein the alloy comprises greater than about 90 weight percent of platinum.
10. The device of claim 1, wherein the alloy further comprises nickel.

11. The device of claim 10, wherein the alloy comprises less than about 6 weight percent of nickel.
12. The device of claim 1, wherein the alloy further comprises copper, manganese, nickel, phosphorus, silicon, nitrogen, sulfur, and carbon.
13. The device of claim 1, wherein the alloy comprises less than about 25 weight percent of iron.
14. The device of claim 1, wherein the alloy is substantially fully martensitic.
15. The device of claim 1, wherein the alloy is at least about 50% martensitic.
16. The device of claim 1, wherein the alloy is at least about 70% martensitic.
17. The device of claim 1, wherein the alloy is at least about 90% martensitic.
18. The device of claim 1, wherein the alloy has a pitting resistance equivalent of greater than about 26.
19. The device of claim 1, wherein the alloy has a hardness of greater than about 24 HRC.
20. The device of claim 1, wherein the alloy has a tensile strength of greater than about an ultimate tensile strength of 140 ksi.
21. The device of claim 1, wherein the alloy has a density of greater than about 11 g/cc.
22. The device of claim 1, wherein the device is adapted to be implanted in a body.

23. The device of claim 22, wherein the device is in the form of a fixation device, a prosthesis, a hip stem, a knee tray, or a dental prosthesis.

24. The device of claim 1, wherein the device is adapted to be a surgical instrument.

25. The device of claim 24, wherein the instrument is in the form of a pair of forceps, a clamp, a needle, a pair of scissors, or a scalpel.

26. The device of claim 1, wherein the device is in the form of a balloon catheter comprising a cutting element comprising the alloy.

27. A medical device, comprising  
an alloy comprising a stainless steel and greater than about 50% by weight of one or more first elements selected from the group consisting of platinum, palladium, iridium, rhodium, gold, silver, and lead.

28. The device of claim 27, wherein the stainless steel is a 300 series stainless steel.

29. The device of claim 28, wherein the stainless steel is 316 stainless steel.

30. The device of claim 27, wherein the alloy comprises greater than about 60% by weight of the first element.

31. The device of claim 27, wherein the alloy comprises greater than about 70% by weight of the first element.

32. The device of claim 27, wherein the alloy further comprises chromium and molybdenum.

33. The device of claim 27, wherein the alloy is at least about 50% martensitic.

34. The device of claim 27, wherein the first element is platinum.
35. The device of claim 27, wherein the alloy consists essentially of the stainless steel, one or more first elements, chromium, and molybdenum.
36. The device of claim 35, wherein the stainless steel is a 300 series stainless steel, the first element is platinum, and the alloy includes less than about 22 weight percent of chromium, and less than about 4 weight percent of molybdenum.
37. A medical device, comprising an alloy having a hardness greater than about 24 HRC and a pitting resistance equivalent greater than about 26, the alloy being at least 50% martensitic.
38. The device of claim 37, wherein the alloy has an ultimate tensile strength greater than about 140 ksi.
39. The device of claim 37, wherein the alloy has a density greater than about 11 g/cc.
40. The device of claim 37, wherein the alloy has a radiopacity greater than 316L stainless steel.
41. A composition, comprising less than about 22 weight percent of chromium, less than about 4 weight percent of molybdenum, greater than about 50 weight percent of platinum, and iron.
42. The composition of claim 41, comprising from about 3 to about 22 weight percent of chromium.
43. The composition of claim 41, comprising from about 1 to about 4 weight percent of molybdenum.

44. The composition of claim 41, comprising greater than about 55 weight percent of platinum.

45. The composition of claim 41, comprising greater than about 60 weight percent of platinum.

46. The composition of claim 41, comprising greater than about 65 weight percent of platinum.

47. The composition of claim 41, comprising greater than about 70 weight percent of platinum.

48. The composition of claim 41, further comprising nickel.

49. The composition of claim 48, comprising less than about 6 weight percent of nickel.

50. The composition of claim 41, further comprising copper, manganese, nickel, phosphorus, silicon, nitrogen, sulfur, and carbon.

51. The composition of claim 41, comprising less than about 25 weight percent of iron.

52. The composition of claim 41, wherein the composition is substantially fully martensitic.

53. The composition of claim 41, wherein the composition is at least about 50% martensitic.

54. The composition of claim 41, wherein the composition is at least about 70% martensitic.

55. The composition of claim 41, wherein the composition is at least about 90% martensitic.

56. The composition of claim 41, wherein the composition has a pitting resistance equivalent of greater than about 26.

57. The composition of claim 41, wherein the composition has a hardness of greater than about 24 HRC.

58. The composition of claim 41, wherein the composition has an ultimate tensile strength of greater than about 140 ksi.

59. The composition of claim 41, wherein the composition has a density of greater than about 11 g/cc.